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One session interviews were conducted with students planning to enter the University of Illinois. The interviews dealt with interpretation of aptitude and interest tests in relation to curricular plans, discussion of the students' expected level of achievement and areas of strength and weakness, a screening procedure for personality problems and the possible need for further counseling. The interviews were conducted under four conditions: (1) normal counseling, (2) normal counseling plus training in writing a self-counseling manual, (3) having the student use the self-counseling manual, and (4) counseling in which the counselor conducted the interview by following the text of the self-counseling manual. Student reactions to the interviews are presented. Students reacted more favorably to and believed they received more help from face-to-face counseling than from programmed counseling. However, the general level of acceptance of programmed counseling was high, and the results support the use of programmed counseling as a substitute for or as an adjunct to face-to-face counseling in terms of acceptance. (Author/PS)

## PROGRAMMED COUNSELING VS. FACE-TO-FACE COUNSELING<sup>1</sup>

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Practically all theories of counseling and of psychotherapy would predict that more favorable outcomes would be expected from the usual face-to-face counseling situation than from the clients using a written, branching booklet in place of the counselor.

However, no body of empirical evidence to this effect exists and if one assumes that a human counselor does have a finite and perhaps somewhat limited number of ways of responding in a counseling situation, then it is at least conceivable that a written, branching booklet incorporating these responses might accomplish many of the same ends as a live counselor provided the personal-relationship factor is not of over-riding importance.

If this reasoning is sound, then it becomes possible to test the following questions.

1. Will reaction to programmed counseling be favorable enough so that it may be used as a supplement to or substitute for face-to-face counseling?
2. Will programmed counseling cover problems the student considers important as fully and as flexibly as face-to-face counseling?
3. Will a counselor's preparation of programmed materials improve his effectiveness as a counselor?
4. Will the absence of the personal relationship factor in programmed counseling result in poorer counseling outcomes?
5. How will programmed counseling compare with face-to-face counseling in effecting changes in the self-concept as represented by appropriate error reduction in estimates of ability, interest, probable success in college, and appropriateness of curricular choice?

To our knowledge, no previous attempts have been made to incorporate, in a written programmed form, the kind of influences which presumably operate in a face-to-face counseling situation and to compare these influences with real face-to-face counseling in a controlled experiment. However, if programmed counseling can be shown to be acceptable and effective, significant progress will have been made in helping solve the national shortage of adequately trained counselors. It is not expected that this counseling manual or adaptations of it will replace live counselors. It is expected that it may significantly reduce the amount of time they must personally devote to their clients.

In addition, if programmed counseling is at all successful, a method will have been devised which should be of considerable research value. Half of the counseling

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dyad will be completely controllable since it will be possible to alter the nature of the counseling supplied by programming in any predetermined fashion desired.

### Procedure

The interviews which were utilized in the research were one session counseling interviews conducted with students planning to enter the University of Illinois. The interviews deal with interpretation of aptitude and interest tests in relation to curricular plans, discussion of the student's expected level of achievement and areas of strength and weakness, a screening procedure for personality problems and the possible need for further counseling. The interviews were conducted by four Ph.D. counselors with an average of more than 10 years of experience in counseling. Each counselor interviewed approximately 25 students under each of the three conditions where a counselor is present. There are differences between counselors in regard to student reactions to counseling, but each counselor had the same opportunity to influence the results of the study under each condition.

As indicated on the first sheet of the handout, the interviews were conducted under four conditions. In Normal-1 counseling the counselor was instructed to conduct the interview in his normal fashion. In Normal-2 counseling the counselors also proceeded in the normal fashion but these interviews took place during the summer following the participation of these counselors in the writing of the Self-Counseling Manual. During the writing of the manual, there were extensive discussions of the counseling involved in this type of interview, and it was felt that these discussions constituted a significant training experience for these counselors which should result in improved counseling in the following summer.

In the Programmed counseling condition the student read the Self-Counseling Manual, which was a branching type programmed book designed to cover topics which would normally be covered in the interview. The personal relationship factor is therefore absent in this procedure. The fourth condition was called Simulated Programmed counseling in which the counselor conducted the interview by following as closely as possible the text of the Self-Counseling Manual. Under this condition, therefore, the personal relationship factor is present and the standardization of the interview is also present to the degree that it is in the Programmed counseling condition.

In the discussions by a group of experienced counselors, there was agreement that it would probably not be either necessary or desirable to follow the usual teaching machine procedure of proceeding by very small steps with frequent reinforcements but that reliance should, instead, be placed upon the intrinsic interest of the material being presented and on a moderate involvement of the subject in reacting to the material presented. The actual content of the manual was determined broadly by having 15 experienced counselors list the topics they most frequently covered in their usual pre-college interviews. The manual was so constructed that all students read a large portion of it, but branching was provided in accordance with the student's own reaction to certain aspects of the contents.

The subjects were 386 male students who voluntarily participated in the interview during the summer prior to their entrance into the University. The 36 students who did not participate did not differ in high school rank or general scholastic aptitude from the participating students. The four counseled groups being studied are quite comparable to each other in regard to scholastic aptitude, high school rank and college of entry.



Immediately preceding the counseling interview, the student filled out a questionnaire which included sections on college major and vocational plans, on estimates of probable academic achievement, on estimated abilities and interests as compared with other entering freshmen, and a section on expected problem areas in college. Immediately following the counseling interview, the student again filled out the same questionnaire except that he now indicated which problem areas were covered in the interview and how helpful the interview was in regard to each area covered. Also he indicated his reactions to the interview itself. During the last two weeks of his first semester in college the student again filled out a questionnaire in which he stated his college major plans, again estimated his abilities and interests, and rated the severity of problems during his first semester in college for each problem area.

### Results

Table 1 in the handout summarizes student reactions to the interview on a five point scale described at the bottom of the table. Statistically significant differences are also summarized there. Preference for normal counseling as compared with programmed counseling is clear. However it is also clear that programmed counseling is rated favorably enough so as to be deemed acceptable as a substitute for or adjunct to normal counseling.

Table 2 summarizes the proportion of instances that students report each item was covered in the interview and the degree to which they rated the discussion as helpful. Here, as was the case in Table 1, student ratings of help received are more favorable under normal counseling than under programmed counseling. However, the ratings of help received under programmed counseling are sufficiently high and it is clear that programmed counseling provided for greater coverage than did normal counseling.

A measure of flexibility of coverage was obtained in which a biserial correlation was computed between degree of severity of a problem as rated by the student before counseling and whether or not the problem was covered as indicated by the student immediately following counseling. The results indicate 17 significant correlations for Normal-1 counseling; 13 for Normal-2 counseling; 10 for simulated programmed counseling and 7 for programmed counseling. The correlations range in size from .20 to .50 and indicate only a moderate degree of flexibility for all counseling conditions and a tendency for normal counseling to be more flexible than programmed counseling but the latter was not demonstrated at a significant level statistically.

Changes in the self concept during counseling as reflected in altered estimates of ability, interest, probable success in college and appropriateness of curricular choice were also compared for the four conditions of counseling. In the case of each ability or interest the student estimated the tenth of the freshman class at the University of Illinois in which his score would fall and an error score was obtained in each case which is the absolute difference between the student estimate and the actual decile score on the test. The estimates were made by the students immediately preceding and immediately following the counseling interview or reading of the programmed counseling manual and also during the last two weeks of the first semester in college. Data for a control group were also obtained. These students filled out the pre-counseling questionnaire on two occasions with no counseling intervening. The interval between test and retest was approximately one week. Another group consisted of "non-counseled students" who made these estimates during the last two weeks of the first semester in college but who received no counseling in the Student Counseling Service prior to that time.

A comparison of the four counseled groups with the control group in regard to the degree of error reduction during counseling in estimates of scholastic abilities is presented in Table 3. The results indicate that all four counseled groups show greater error reduction than does the control group. Consequently, it appears that counseling has the effect of producing significant error reduction. Significant error reduction did not occur for the control group.

The results presented in Table 4, comparing three counseling conditions, indicate that programmed counseling results in greater error reduction than normal-2 counseling in seven instances and greater than simulated programmed counseling in three instances. In one instance simulated programmed counseling results in greater error reduction than normal-2 counseling.

The above results have to do with the immediate effects of a counseling interview. Error reduction was also studied from the time of the ratings prior to the counseling interview until a rating at the end of the first semester in college which was from five to seven months later. Programmed and simulated programmed counseling continue to show superiority over normal-2 counseling in appropriate error reduction. Similarly students who received counseling, especially programmed or simulated programmed counseling show a lower error score in estimating abilities than do non-counseled students. Such persistence in changes in ability estimates over a period of five to seven months indicates that these changes during counseling do not merely represent students' acquiescence or cooperativeness when participating as subjects in an experiment.

Similar results in regard to errors in estimates of interests were obtained except that these changes in interest estimates do not persist during the first semester in college.

The counseling interviews under study are also designed to assist the student to more adequately evaluate the appropriateness of his choice of a major field in college and to assist him to assess the difficulty of the scholastic program he will face. Significant improvement in the student's estimates of appropriateness of abilities and interests occurred only with programmed counseling. Such improvement in estimates of abilities was significantly greater for programmed counseling than for the control group.

Similarly changes in appropriate directions in hours a student should study and in grades he should expect to achieve were found to be associated with the various counseling conditions. In most cases these changes were significantly greater than changes in the control group. The only significant difference between counseling conditions favored normal-2 counseling over programmed counseling.

Comparisons of normal-1 and normal-2 counseling which have not been discussed previously tend to indicate some superiority of normal-2 counseling which occurred after counselors participated in writing of the Self-Counseling Manual and suggest that this writing was a valuable training experience.

### Summary and Discussion

It may be concluded from the research that students react somewhat more favorably to and believe they have received more help from face-to-face counseling than from programmed counseling. However, the general level of acceptance of programmed

counseling is high and the results thus support the use of programmed counseling as substitute for or as an adjunct to face-to-face counseling in so far as acceptance is concerned.

Contrary to all expectations it seems clear that the direct personal relationship of client and counselor is not of great importance in client acceptance of counseling. This is indicated by the fact that students do not generally react more favorably to simulated programmed counseling where a counselor is present than to programmed counseling. This does not mean that a hostile or inept counselor would not produce an unfavorable reaction in the client. It does suggest that appropriately written and carefully organized printed material is perceived by clients as being very helpful. It is possible that a feeling of personal involvement and concern can be conveyed in writing in that clients really react more to the content and substance of what is presented, regardless of the form of the presentation.

Programmed counseling proved to be as effective or more effective than face-to-face counseling in producing appropriate changes in estimates of ability and interest, of suitability of abilities and interests for one's curricula, of estimates of probable grades and hours of study required in college. It would appear, therefore, that effective learning or appropriate changes in important self-concepts of personal and emotional significance can be achieved without the presence of the personal relationship factors considered to be so important in face-to-face counseling.

Since there were both favorable student reactions to programmed counseling and since significant changes in self concepts seem to occur with programmed counseling, it is an obvious next step to ask whether psychotherapy for such conditions as acute anxiety could be successfully supplied to a client via a written programmed approach. Dr. Gilbert and I are presently engaged in writing such a program for acute examination anxiety.

The counseling manual, used in the research project, is now being used in a revised form in our regular pre-college counseling program at the University of Illinois. Copies are sent home to new students after they have been admitted to the University. After reading the counseling manual at home, these students decide whether or not they wish to see a counselor for a regular counseling interview prior to their entrance into the University.



## Programmed Counseling vs. Face-to-face Counseling\*

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### Schematic Representation of Design of the Study

Group Studied	N	Pre-counseling Questionnaire	Counseling Received	Post-counseling Questionnaire	End of Semester Questionnaire
Normal - 1 counseling	95	Yes	Normal Counseling	Yes	Yes
Normal - 2 counseling	98	Yes	Normal counseling following participation in writing Counseling Manual	Yes	Yes
Programmed counseling	104	Yes	Read programmed Counseling Manual	Yes	Yes
Simulated programmed counseling	94	Yes	Counselor followed order and content of Counseling Manual	Yes	Yes
Control Group	97	Yes	A week or 10 days with no counseling	Yes	No
Non-counseled group	121	No	No	No	Yes

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Table 1. General Student Reactions to the Counseling Interview  
Under the Four Conditions of Counseling.

Items rated by the student on a 5-point scale*	Normal-1	Normal-2	Programmed	Simulated
	Counseling	Counseling	Counseling	Programmed Counseling
	Mean	Mean	Mean	Mean
1. Were the explanations of test scores clear?	4.51	4.56	4.36	4.27
2. Did the counselor seem interested in trying to help you?	4.65	4.64	4.33	4.36
3. Was the information helpful in educational and vocational planning?	3.85	4.20	3.45	3.51
4. Did you feel generally at ease during the interview?	4.01	4.12	4.03	4.17
5. If you have difficulties later, will you return for help?	4.52	4.45	4.27	4.32
6. Are you satisfied that this interview was a worthwhile experience?	4.44	4.55	3.98	4.05
7. Was the information received about the University helpful?	3.88	4.11	3.70	3.89
8. How helpful will clearer knowledge about yourself be in life, generally?	3.50	3.81	3.45	3.53
9. Mean of means.	4.17	4.31	3.94	4.01

\* 5 means "very clear," "very interested," etc.; 4 means "quite clear," etc.; 3 means "moderately clear," etc.; 2 means "slightly clear," etc.; 1 means "not clear at all," etc.

Statistically significant differences between groups ( $P$  less than .05; two tailed test), as compared with programmed counseling, Normal-1 counseling is rated more favorably on items 2, 3, and 6; Normal-2 counseling is rated more favorably on items 1, 2, 3, 6, 7, and 8. No differences are found between Programmed and Simulated Programmed Counseling. For both Normal conditions more favorable ratings are obtained on items 1, 2, 3, and 6 when compared with Simulated Programmed Counseling. Normal-2 counseling is rated more favorably than Normal-1 counseling on items 3, 7, and 8.



Table 2. Percentage of Coverage of Each Problem Area and Mean Ratings of Help Received for Each Problem Area

Problems rated on a five-point scale*	Percentage of coverage and mean ratings of help received							
	Normal-1		Normal-2		Programmed		Simulated	
	Counseling		Counseling		Counseling		Counseling	
	%Cov-	Help	%Cov-	Help	%Cov-	Help	%Cov-	Help
	ered	Mn	ered	Mn	ered	Mn	ered	Mn
1. <u>Aptitude and preparation for college.</u>								
Knowledge of scholastic aptitudes	(100)	3.53	(100)	3.85	(100)	3.29	(100)	3.26
Knowing adequacy of preparation for college.	(73)	3.46	(89)	3.67	(90)	3.18	(74)	3.13
2. <u>Scholastic problems.</u>								
Knowing courses to be taken first semester.	(57)	3.16	(77)	3.56	(28)	2.55	(30)	2.57
Scholastic requirements at the University.	(37)	2.83	(50)	3.19	(63)	2.97	(74)	3.01
Level of difficulty of courses.	(60)	3.14	(58)	3.24	(63)	2.86	(69)	3.15
Information about college curricula.	(59)	3.09	(76)	3.38	(48)	2.86	(61)	2.84
3. <u>Vocational problems.</u>								
Knowing interests as related to vocational choice.	(96)	3.68	(100)	3.87	(100)	3.23	(95)	3.64
Information about occupations.	(68)	3.17	(68)	3.25	(70)	2.99	(57)	2.98
Uncertainty about vocational choice.	(77)	3.50	(81)	3.64	(86)	2.94	(84)	3.20
Selection of a college major.	(80)	3.26	(85)	3.52	(94)	2.93	(83)	3.15
4. <u>Motivational problems.</u>								
Problems with scholastic motivation.	(47)	3.44	(53)	3.46	(82)	3.00	(87)	3.16
Lack of energy and ambition.	(23)	3.18	(25)	3.13	(62)	2.41	(42)	2.55
Too easily discouraged.	(10)	3.60	(10)	2.70	(42)	2.35	(21)	2.40
Not taking things seriously enough.	(14)	3.08	(29)	2.78	(61)	2.40	(37)	2.60
5. <u>Not achieving scholastically as well as I should.</u>								
	(67)	3.27	(76)	3.54	(91)	3.23	(80)	3.29
6. <u>Work Efficiency.</u>								
Efficiency and organization in my work.	(31)	3.30	(58)	3.49	(88)	3.16	(93)	3.48
Industriousness, hard work and persistence	(45)	3.07	(57)	3.43	(75)	3.00	(65)	3.23
Self-discipline and avoiding procrastination.	(35)	3.18	(53)	3.66	(81)	2.98	(75)	3.24

Table 2 (continued)

Percentage of coverage and mean ratings of help received.

	Normal-1 Counseling	Normal-2 Counseling	Programmed Counseling	Simulated Programmed Counseling
	%Cov- Help ered Mn	%Cov- Help ered Mn	%Cov- Help ered Mn	%Cov- Help ered Mn
7. <u>Personal adjustment.</u>				
Feeling of inadequacy in social relations.	(15) 2.43	(17) 2.63	(67) 2.20	(36) 2.50
Either too much or too little social life.	(18) 2.53	(36) 2.82	(64) 2.32	(31) 2.58
Personal adjustment and self confidence.	(36) 3.00	(41) 3.26	(75) 2.55	(56) 2.91
Worrying, fears, anxiety.	(21) 3.10	(28) 2.96	(55) 2.26	(30) 2.82
Being mature and accepting responsibility	(17) 2.94	(30) 3.18	(63) 2.49	(62) 2.88
Feelings of inferiority.	(6) 3.17	(10) 2.80	(52) 2.20	(19) 2.22
8. <u>Problems of relationships with parents.</u>	(26) 2.84	(26) 2.13	(61) 1.86	(37) 2.37
9. <u>Miscellaneous</u>				
Information about honors programs.	(26) 3.13	(17) 3.00	(17) 1.83	(10) 2.10
Information about housing.	(40) 2.26	(46) 2.48	(16) 2.19	(16) 2.33
Information about rules and regulations.	(3) 3.00	(8) 2.38	(21) 2.55	(21) 2.25
Military requirements and opportunities.	(22) 2.62	(39) 2.51	(8) 1.88	(5) 2.40
Extra-curricular activities.	(32) 2.74	(41) 2.64	(33) 2.38	(23) 2.77
Athletics information.	(16) 2.47	(21) 2.60	(9) 2.33	(1) 2.00
Financial problems.	(31) 2.73	(33) 2.58	(16) 2.00	(6) 2.67
Health problems.	(15) 2.93	(9) 2.00	(17) 2.39	(23) 2.68
Religious problems.	(2) 2.00	(4) 2.50	(52) 2.15	(23) 2.64
Relations with faculty and administration.	(37) 3.19	(37) 3.29	(58) 2.77	(64) 3.10
Concern about size of University.	(27) 3.31	(31) 2.59	(28) 2.72	(36) 2.94
Mean of means for each student.	3.13	3.28	2.82	3.07
Mean number of problems covered.	13.7	16.7	20.1	18.5

As compared with Programmed counseling, significant differences in mean ratings of help received favor Normal-1 counseling on 9 items and Normal-2 counseling on 14 items. As compared with Simulated Programmed counseling, significant differences favor Normal-1 counseling on 5 items and Normal-2 counseling on 7 items.

Of 20 significant differences in percentages representing coverage 18 of 20 favor Programmed counseling over Normal-1 counseling. Similarly 16 of 20 favor Programmed counseling over Normal-2 counseling. Similar but less frequent differences favor Simulated Programmed counseling over Normal-1 and Normal-2 counseling.

\* 5 means "extremely helpful"; 4 means "very helpful"; 3 means "quite helpful"; 2 means "fairly helpful"; 1 means "little or no help."

Table 3. Differences Between Counseling Conditions and the Control Group  
in Reduction of Error in Estimating Scholastic Abilities

	Normal-1 minus Control	Normal-2 minus Control	Programmed minus Control	Simulated Programmed minus Control
	Mean	Mean	Mean	Mean
1. General aptitude for college	.365**	.292	1.614**	1.243**
2. Verbal aptitude	.261	.717**	1.200**	.758**
3. Numerical aptitude	-.092	.138	.883**	.288
4. Proficiency in science	.342*	.426**	1.018**	.776**
5. Proficiency in social science	.553**	.605	.854**	.612**
6. Proficiency in English	.366**	.723**	.843**	.772**
7. Proficiency in mathematics	.302*	.323*	.533*	.442**
8. Reading Speed	.844**	.546**	1.495**	.748**
9. Reading Comprehension	.666**	.840**	1.586**	.925**
10. Vocabulary	.543**	.502**	.912**	.698**

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\*\*p less than .01; one-tailed test

\*p less than .05; one-tailed test

Table 4. Differences Between Counseling Conditions in Reduction of Error in Estimating Scholastic Abilities

Aptitude Rated	Difference in amount of reduction of error		
	Programmed minus Normal-2 Counseling	Simulated Programmed minus Normal-2 Counseling	Programmed minus Simulated Programmed Counseling
	Mean	Mean	Mean
General College Ability	1.32**	0.95**	0.37
Verbal Ability	0.48*	0.04	0.44
Numerical Ability	.75**	.15	.60*
Proficiency in Science	.74**	.36	.38
Proficiency in Social Science	.29	-.01	.30
Proficiency in English	.21	.05	.16
Proficiency in Mathematics	.27	.13	.14
Reading Speed	.95**	.20	.75**
Reading Comprehension	.75**	.09	.66**
Vocabulary	.41*	.20	.21

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\*\*p less than .01; two-tailed test

\*p less than .05; two-tailed test